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Marlene H. Dortch  
Office of the Secretary  
Federal Communications Commission  
445 12th Street, SW  
Washington, D.C. 20554  
USA

Your reference  
Votre référence

Your letter dated  
Votre lettre du

Our reference  
Notre référence

Darmstadt

EUM/SES/LET/10/0308 25 June 2010

**Subject: EUMETSAT Response to FCC Public Notice ET Docket No. 10-123  
(Information on use of the 1675 - 1710 MHz band)**

Dear Madam,

The European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) would like to thank the Federal Communications Committee for the opportunity to comment on its Public Notice ET Docket No. 10-123 regarding the request for information on the use of the 1675-1710 MHz band.

EUMETSAT is an intergovernmental organisation for monitoring weather, climate and the environment with currently 26 Member States and 5 Cooperating States. Like its pendant and partner NOAA in the US, EUMETSAT operates a system of geostationary and polar-orbiting meteorological satellites monitoring the atmosphere as well as ocean and land surfaces. The resulting data, images and products address requirements for both daily weather and long-term climate monitoring coming from National Meteorological Services and the worldwide user community, including military users. The EUMETSAT service is delivered 24 hours a day, 365 days a year.

EUMETSAT currently operates the second generation of geostationary Meteosat satellites over Europe, where they are delivering a reliable stream of high quality images and data taken every 15 minutes for improved weather forecasts and severe weather warnings. The first generation Meteosat satellites are deployed over the Indian Ocean, providing vital data for the region and supporting a regional tsunami warning system. Scientists and engineers are currently preparing a third generation of Meteosat satellites to complement the currently operating EUMETSAT geostationary system from 2016.

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The first European operational meteorological satellite in polar orbit, Metop-A, provides detailed observations of atmospheric conditions, such as temperature and moisture profiles, supplemented by information on the chemical composition and aerosol load of the atmosphere. These data are needed for weather forecasting and in climate and environmental monitoring. The satellite is the space element of the EUMETSAT Polar System which together with the NOAA POES polar system forms the Initial Joint Polar System Agreement (IJPS) providing and improving operational meteorological and environmental forecasting and global climate monitoring services worldwide. In both cases this is a permanent (24/7/365) use of the entire 1675 – 1710 MHz band.

All of the above described meteorological satellite systems of EUMETSAT rely on the use of the frequency band 1675 – 1710 MHz for different applications. In the framework of the geostationary Meteosat system this band is used for the downlink of the raw instrument meteorological data from the satellite to dedicated Earth stations and for the retransmission of processed meteorological data to the users. In the framework of the EUMETSAT polar system this band is used for direct meteorological data broadcast (High Resolution Picture Transmission (HRPT)) from the satellite to the users worldwide.

EUMETSAT, as an operator of MetSat systems serving meteorological users worldwide, is extremely concerned about potential decision by the US Administration to make available spectrum in this band for broadband mobile use as such a decision made in the US will in the medium- and long-term propagate globally and therefore will not only constrain the provision of MetSat services to the users in the US but worldwide. This will also significantly affect a large number of MetSat Earth stations operated by US Official Duty Users like NOAA and US military around the world as one of the prime users of the EUMETSAT satellite data, gathered over Europe and Africa, the Indian Ocean and globally through the EUMETSAT polar system.

Due to the nature of such a broadband mobile application with an expected large number of mobile users, sharing with MetSat user stations is considered not feasible. The protection of MetSat stations could only be achieved by the introduction of exclusion zones around each Earth station which would practically not be implementable for a mobile service. Thus, considering the market forces of mobile systems, making available spectrum for mobile systems in the band 1675 – 1710 MHz would inevitably result in the medium- and long-term in a displacement of MetSat services from this band, which effectively currently occurs in the band 1668.5 – 1675 MHz with the allocation of that band to the mobile-satellite service at WRC-03.



Regarding the proposal in the FCC public notice that a data distribution via terrestrial services (internet in particular) would be equivalent to the direct reception of the satellite services, EUMETSAT would like to note that using this approach as the sole means of data distribution, the high level of reliability and availability necessary for the users and the purposes for which the meteorological data are used for, could by far not be achieved. This is in particular true considering situations of severe meteorological events (hurricanes, tornadoes, storms) or any other disaster situation. In such situation users rely on reception of meteorological data directly from MetSat satellites, being independent from any commercial network or service provider.

Giving the importance of the 1675 - 1710 MHz band for the meteorological user community and the society relying on the services derived from the data provided by MetSat satellites, EUMETSAT hopes that the US Administration refrains from making available frequency spectrum for broadband mobile services in the band 1675 – 1710 MHz, thus securing the long-term availability of MetSat services to users in the US and worldwide.

The attachment to this letter contains the detailed responses to the specific questions 1 – 9 in the FCC Public Notice – Requests Information on Use of 1675 – 1710 MHz Band, ET Docket No. 10-123. As requested an electronic copy of the letter and its attachment was also sent via e-mail to Best Copy and Printing, Inc. (BCPI), [fcc@bcpiweb.com](mailto:fcc@bcpiweb.com).

Yours sincerely,

A handwritten signature in black ink, appearing to be "E. Koenemann", written over a horizontal line.

Ernst Koenemann  
Director of Programme Development

**Attachment 1****Specific responses from EUMETSAT to questions 1 to 9**

- 1. A description of the utility of the 1675-1710 MHz band for wireless broadband services, including any pairing, band plan, or other licensing approaches that would maximize this utility;**

Not applicable to EUMETSAT.

- 2. Identity of the non-federal entities accessing the services operating in the 1675–1710 MHz band;**

National Weather Services worldwide, military users, a significant number of US Official Duty Users (e.g. NOAA and US military) and other users.

- 3. A description of the purpose of such use (i.e., the equipment is used to support TV weather forecasting or for conducting university research);**

Meteorological satellites and related MetSat Earth stations are operated in support of worldwide National Weather services and other users.

- 4. Which portions of the 1675-1710 MHz band are used;**

The 1675-1710 MHz use is determined by Recommendation ITU-R SA.1745 (Use of the band 1668.4 - 1710 MHz by the meteorological aids service and meteorological-satellite service (space-to-Earth)).

Detailed frequencies used by current and future EUMETSAT missions are in accordance with Recommendation ITU-R SA.1745:

- 1 675-1 690 MHz: Main earth stations for reception of raw image data, data collection and spacecraft telemetry from GSO meteorological satellites,
- 1 690-1 698 MHz: User stations for direct readout services from GSO meteorological satellites,
- 1 698-1 710 MHz: User stations for direct readout services and pre-recorded image data at main earth stations from non-GSO meteorological satellites.

- 5. How often the service is used (e.g., every day, scheduled times of day, duration, etc.);**

MetSat service is provided permanently 24 hours a day, 365 days a year.

**6. An estimate of the current investment in wireless equipment, including when it was obtained and put into use;**

In Europe significant investments are made to carry out operational meteorology and climate monitoring through EUMETSAT, an intergovernmental European Organisation for the Exploitation of Meteorological Satellites.

For the current generation of geostationary meteorological satellite system (Meteosat Second Generation), the primary European source of geostationary observations over Europe and Africa and key contribution to the Global Observing System of the World Meteorological Organization (WMO), the costs for development and operation of this system are in the order of 2.4 Billion Euros.

For the EUMETSAT Polar System (EPS), Europe's first polar orbiting satellite system for operational meteorology and climate monitoring, and the European contribution to the Initial Joint Polar-Orbiting Operational Satellite System in cooperation with the US, the investments in Europe are in the order of 2.2 Billion Euros.

For the currently planned next generation geostationary meteorological satellite system (Meteosat Third Generation), the investments in Europe for development and operation will be in the order of 3.3 Billion Euros. The investments in Europe for development and operation of the next generation polar orbiting meteorological and climate monitoring satellite system (Post-EPS) are expected also be in excess of 3 Billion Euros.

These amounts do not consider the cost of the numerous receiving stations deployed worldwide.

**7. A description of whether and how the information and services currently accessed can be obtained from other means; and if so, the anticipated costs and timeframes for implementing any alternatives;**

There is no alternative to using frequency spectrum for MetSat operations and no alternative frequency band to the band 1675 – 1710 MHz that can provide similar independent, reliable and available service.

**8. Confirmation that, if the information currently available from the meteorological satellite service were received at only a few receive sites and distributed via terrestrial services, this would be a functionally equivalent substitute for the direct reception of the satellite and radiosonde services;**

As described in the cover letter, distribution of MetSat data only via terrestrial services cannot provide the necessary level of reliability and availability necessary for the users and the purposes for which the meteorological data are used for.

**9. Any other information interested parties would like to identify regarding use of the meteorological satellite and radiosonde services.**

See cover letter.